

Exhibit “D”



College of Law25 East Jackson Boulevard
Chicago, Illinois 60604-2287

312/341-8701

March 17, 1989

Stanley V. Smith, President
Corporate Financial Group Ltd.
1165 North Clark
Suite 650
Chicago, IL 60610

Dear Mr. Smith:

Thank you for agreeing to team teach a course in the economic analysis of legal damages. We have invited you to join us as an adjunct professor because of your expertise in economic analysis and, in particular, the economic theory of hedonic damages.

Our full time instructors in the area of remedies are enthusiastic about introducing the theory of hedonic damages into our curriculum.

The precise details of the contents of the course and the time and place of teaching the course will be worked out in conjunction with Professor Ottley.

Thank you again for joining us.

Very truly yours,

A handwritten signature in black ink, appearing to read "Vincent F. Vitullo".

Vincent F. Vitullo
Associate Dean

VFV:ja

Economics 404W, Penn State University, Spring 1999
Professor Rodgers
Page I

Economics 404W.1, Penn State University
Spring Semester 1999
Current Economic Issues: Forensic Economics
TR 1:00 - 2:15
317E Henderson Human Development East

Book
Used
in
College
Courses

A. Instructor: James D. Rodgers, Professor of Economics
Office: 605 Kern Graduate Building
Office Hours: 4:00 - 5:00 P.M., Tuesday & Thursday, or by appointment
Office Phone: (814) 863-0560
E-Mail Address: jdr@psu.edu

B. Textbooks:

Econ 404W *Binder of Readings* available for purchase from the Student Book Store on College Avenue (hereinafter referred to as "Binder"). Much of the *Binder* is composed of chapters from Michael L. Brookshire and Stan V. Smith, *Economic/Hedonic Damages*, referred to (affectionately) as BS, and the 1992/1993 Cumulative Supplement to this book, referred to as BS-CS. The other material is from other periodicals, journals and books.

Gerald D. Martin, *Determining Economic Damages*, Tenth Revision (Santa Ana, California: James Publishing, Inc., 1998) Hereinafter, this book is referred to as "Martin."

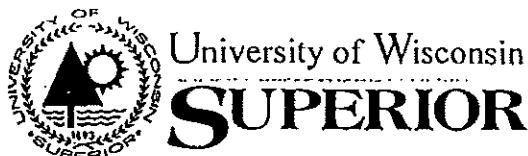
C. Course Objectives: The primary objective of this course is to expose economics majors to the field known as "forensic economics," the application of the general theories and methodologies of economics to the measurement of damages and/or proof of liability in litigation. Also, this is a "writing intensive course," and, as such, a second objective of this course is to give you an opportunity to do some writing in a course in your major. Both exams and homework assignments will be designed to give you this opportunity.

D. Writing Assignments and Examinations: There will two examinations, a mid-term on Tuesday, March 2, and a take-home final to be turned by Monday, May 3, at 4:00 p.m. Over the semester, there will also be several homework assignments that will involve writing short reports, answering questions about various damages issues and/or appraising economic damages. The mid-term will count 20% of your grade, the final 30%, and the homework assignments 40%. The remaining 10% will be based on class attendance and participation, and class attendance will be taken on a regular basis.

E. How to Improve your chances of performing well:

1. Attend class regularly.
2. Keep up with the reading, and read assignments at least once before the material is covered in class.
3. Don't hesitate to use the office hours that I offer you.

F. List Service for This Course: This course has its own list service with the address: L-ECON404W@lists.psu.edu. As a student enrolled in this course, you are automatically a subscriber to this list. If you send a message to the list, it automatically goes to every subscriber, i.e., to me and to all other students enrolled in this class.



University of Wisconsin
SUPERIOR

Superior, WI 54880-2898

October 11, 1996

Stan V. Smith
President
Corporate Financial Group, Ltd.
1165 N. Clark Street
Suite 650
Chicago, IL 60610
(312) 943-1551
Fax: (312) 943-1016

Dear Dr. Smith:

Several months ago, Mr. Toby Marcovich, of the law firm Marcovich, Cochrane & Milliken, was kind enough to lend me a copy of your book Economic/Hedonic Damages: The Practice Book for Plaintiff and Defense Attorneys, which you co-authored with Professor Michael Brookshire. I enjoyed reading the book so much that I thought I would like to adopt it as a required text for a course in forensic economic analysis that I am hoping to incorporate into the economics major at UW-Superior. I was terribly disappointed to learn from Anderson Publishers that your book and its companion software are both out of print. This is terribly unfortunate, not only for faculty like myself who would like to expose their students to a book of this sort, but also to practicing attorneys and forensic economists who could gain valuable insights from the knowledge it contains.

So my question to you is, do you know whether or not Anderson, or any other publisher for that matter, is interested in printing a revised edition of your book? I can assure you that if this book were available in print, I would definitely assign it to my students, and I would recommend it to my colleagues at other schools. I congratulate you and professor Brookshire on your efforts, and I hope this work once again receives the attention among scholars and practitioners that it deserves.

Sincerely,

Robert D. Beam

Robert D. Beam, Ph.D.
Professor of Economics
University of Wisconsin - Superior
Superior, Wisconsin

MLB
&A

333 12th Street, Suite 3
P.O. Box 1046
Dunbar, West Virginia 25064

Michael L. Brookshire & Associates

Telephone: 744-078;
Telecopier: 744-079;
Area Code: (304)

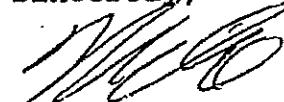
August 27, 1991

Dr. Frank Slesnick
Forensic Economist
Bellarmine College
Louisville, Kentucky 40205

Dear Frank:

Thank you for sharing with me the course outline that will use the 1990 book as a text. I look forward to your feedback and impressions after teaching the course.

Sincerely,



Michael L. Brookshire, Ph.D.
Forensic Economist

MLB/lsk

Economics 342 - Forensic Economics
Professor Frank Slesnick
Fall, 1991



Required Text:

Economic / Hedonic Damages, Michael Brookshire and Stan Smith, Anderson Publishing Co., Cincinnati, Ohio, 1990. In addition, there will be many required articles that will be put on reserve.

I. General Introduction to Tort Law

Article:

Robert Cooker and Thomas Ulen, Law and Economics, Scott, Foresman, and Co., 1988, pp. 326-340.

II. Forensic Economics - Some Basic Concepts

Text: Chapters 1 and 2.

Article:

Michael Brookshire, Frank Slesnick, and Robert Lessne, "The Emerging Industry of Forensic Economics: A Survey of NAFE Members," Journal of Forensic Economics, Vol. 3, No. 2, pp. 15-29.

III. Framework for Estimating Economic Damages

Text: Chapter 3.

Articles:

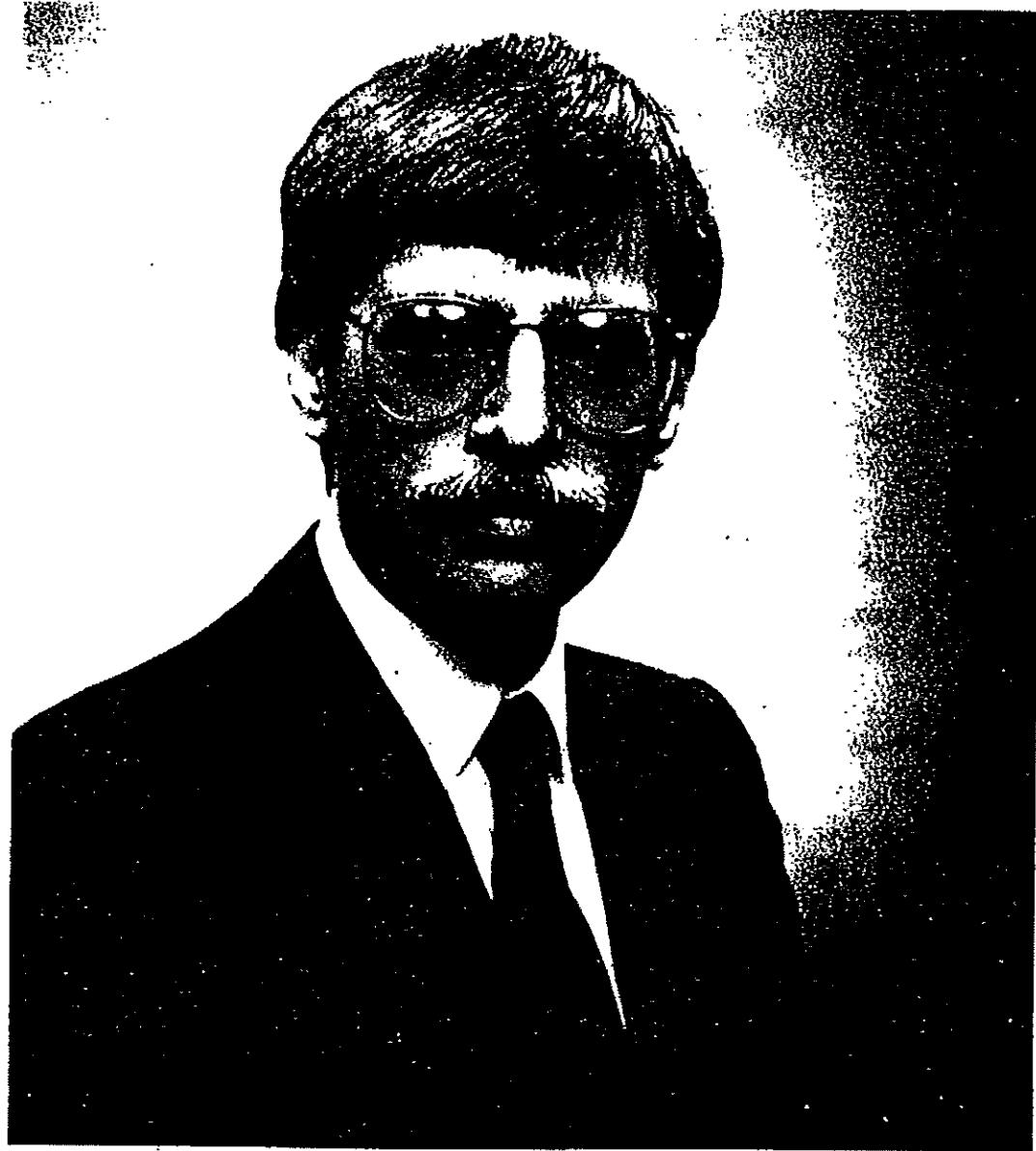
William P. Jennings and Penelope Mercurio, "Selection of an Appropriate Discount Rate in Wrongful Death and Personal Injury Cases," Journal of Contemporary Law, Vol. 14, No. 2, pp. 195-209.

Ronald E. Kutscher, "Projections Summary and Emerging Issues," Monthly Labor Review, Vol. 112, No. 11, Nov. 1989, pp. 66-73.

R. D. Peterson, "Estimating a Decedent's Consumption Based on Total Family Income," Defense Counsel Journal, Vol. 57, Jan. 1990, pp. 67-73.

Allan M. Feldman, "Real Interest Rates and Total Offset in Computations of Damages in Death and Disability Cases," Connecticut Bar Journal, Vol. 62, 1988, pp. 212-230.

Everett G. Dillman, "The Age-Earnings Cycle -- Earnings by Education," Journal of Forensic Economics, Vol. 2, No. 1, Dec. 1988, pp. 105-116.



Frank L. Slesnick
President
National Association of Forensic Economists
1991

THE EARNINGS ANALYST

Journal of the American Rehabilitation Economics Association

Volume IV 2001

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Forensic Economics in the Classroom

David Toppino, Frank Slesnick, Elizabeth Gunderson, and Robert Male*

Introduction

Forensic economics has been a field of practice for economists for several decades. The practice of forensic economics is presently directly supported by three professional organizations (American Academy of Economic and Financial Experts, American Rehabilitation Economics Association, National Association of Forensic Economics), four refereed journals (*Journal of Forensic Economics*, *Journal of Legal Economics*, *Litigation Economics Review* and *The Earnings Analyst*), and paper sessions at most of the major economics conferences in North America. The memberships of the professional organizations that focus on forensic economics include a sizable percentage of economists that teach economics at the college level. In contrast to this substantial level of involvement with the field by economists, until recently there have been relatively few courses in forensic economics taught at the undergraduate or graduate level. This discrepancy may be related to the perception that forensic economics is not yet generally endorsed as a recognized sub-discipline by many economists, making it difficult to convince colleagues that such a course or courses should be part of the curriculum. Also, the proprietary and consultative nature of the field may also be perceived by some as inconsistent with the purity, openness, and integrity of economics as an academic discipline.

This paper begins with an explanation of what is meant by the term "forensic economics" and how as an "applied discipline" it relates to economics as an academic discipline. Once the contextual foundation is established for the practice of forensic economics, the focus of this paper shifts to the

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teaching of forensic economics courses and the value that such courses can add to an economics curriculum. This review of forensic economics in the classroom will include discussion of complete courses, as well as the use of methodology and principals from forensic economics in courses such as Labor Economics and Law and Economics courses. The final section will summarize the paper and draw some conclusions.

Forensic Economics

Generically, forensic economics refers to the application and use of economic theory and methodology in the litigative process. Ward and Olsen (1993) have presented forensic economics as having utility for two broad categories of litigation. The first involves *public interest disputes*, such as antitrust, environmental law and employment discrimination. Cases related to these types of market failures involved the first use of economists in the courtroom. The second relates to *private interest disputes*, and falls within the realm of civil litigation. It includes breach of contracts and torts (a civil wrong not involving a breach of contract). Torts in the form of personal injury and wrongful death litigation and products liability now comprise the bulk of forensic economic consulting opportunities. In addition to establishing the present pecuniary value of past and future impairments to market based earning streams, the forensic economist may provide present value estimates of loss of household (non-market) services production and the costs of future medical care.

Expansion of the use of experts in private and public interest disputes arose in the 1960s when the interaction between law and economics began to be recognized as an integral element for determining pecuniary damages. Economists had begun to ask questions that looked at whether the law accomplished the goals postulated by society, and whether these goals were achieved in an efficient manner. A typical question might be: "Is strict liability a proper rule for products produced by the ABC company, where efficiency is roughly defined as achieving the goals of safety and consumer choice at the least cost?"

For economists, requiring compensation as a result of, say, unsafe driving raises the cost of this activity. Compensation "internalizes" costs imposed on others from unsafe driving to help achieve a more efficient allocation of resources. Thus, an economic analysis of the law can predict how market participants will react to legal sanctions and also help determine whether the sanctions imposed are optimal from society's point of view.

Torts, unlike contracts, occur when prior agreements cease to function or are too difficult or expensive to transact. For example, drivers would find it

impossible to contract with other drivers or pedestrians prior to using their car. Further, tort law, unlike criminal law, is private rather than public. These are civil rather than criminal cases, and are brought by private parties rather than the state. Traditional tort law requires three elements: the plaintiff to have suffered harm, the defendant to have caused the harm, and the defendant's act to have constituted a breach of duty owed the plaintiff.

In order for the plaintiff to recover damages, harm must be determined to have occurred. In the cases where a forensic economist becomes involved, this harm most often relates to lost wages and decreased earning power, the value of lost household services, and increased medical costs. The accurate determination of harm in pecuniary terms is important for the larger role of achieving social efficiency. More specifically, if harm is not determined accurately, then the wrong signal is sent to the tortfeasor and either too much or too little of the activity in question will be undertaken. For example, if damages are systematically overstated in medical malpractice cases, then too little of the medical services activity will be offered.

In addition, the tortfeasor must have caused the alleged harm. To determine causality, lawyers will commonly use the "but for" test. But for the tortfeasor's actions, the resulting harm would not have occurred. Finally, there must be a breach of duty owed to the plaintiff by the tortfeasor. Only in the case of strict liability is breach of duty unimportant. In a medical malpractice case, a physician may have been the cause of grievous harm to a patient, but unless he or she is also guilty of behavior below what is generally accepted practice or standard of care, then liability will not be found. Much of the research in the law and economics literature relates to the issue of liability in terms of what level of precaution is optimal from society's point of view. Liability can be determined to reside with the potential tortfeasor, the plaintiff, or some combination of the two parties.

It is evident that tort law, the area in which most forensic economists practice, is an important component of the law and economics tradition. All standard textbooks covering law and economics incorporate a discussion both of tort law and the methods of valuing the harm caused by the tort (Cooter & Ulen 2000). In addition, the forensic economics assessment process directly employs the so-called human capital model. An injury can be viewed as a sudden and often permanent decline in human capital, with the appropriate pecuniary award represented by the discounted present value of that loss. Thus, the proper determination of economic losses requires an integrated and systemic understanding of pertinent individual and market variables and the economic concepts of opportunity cost and replacement cost (Ireland 1999).

In practice, forensic economics is a valuation process practiced within an adversarial system. Ethically, as well as pragmatically, the consulting expert

must exert considerable' diligence to minimize the possible effects of biases and their influence on findings and opinions. In every instance, the economic consultant must understand the reasons for choosing to collect particular data, and why certain instruments, data, or procedures are used while others are not. Operating in a multi-disciplinary framework, forensic economic consultants must also periodically rely on other related experts to assist in the data collection and fact-finding mission. While most evaluation approaches attempt to reduce bias, this adversary-oriented system, aspires to balance it by imparting opposing (plaintiff and defense) views into the evaluation itself (Worthen, Blaue, & Fitzpatrick 1997).

Typical questions a forensic economist must answer include:

1. Had the plaintiff not been injured, what occupational advancement and earnings growth would have most likely occurred (pre-incident earning stream)?
2. Given the post-incident status of the plaintiff, what are the likely earnings that will be earned?
3. Given the plaintiff suffered age discrimination from company XYZ, how long will the negative effects persist and what are the determinable economic consequences?
4. Given the injury to the plaintiff, to what extent are household services reduced and what is the value of the lost services?

These and the myriad of other questions to be answered in forensic economics relate to assessing the market and non-market activities of the individual and what variables influence the value of these activities over time.

Since these economic damages are calculated within a legal framework that may vary by venue, forensic economic analyses must often utilize economic methodology tailored to the specific jurisdiction to achieve its goals. For example, a wrongful death case in the State of Kentucky is quite different from most other states in that consumption of the deceased (now absent because of the death) is not subtracted when estimating the loss to survivors. Although the forensic economist may balk at such legal restrictions, the established parameters of the jurisdiction must be considered if the opinion is to be accepted in that court. Further, the forensic economist often must work with other experts, most commonly a vocational expert who will examine the employment prospects of an injured individual, and a life care planner who estimates lifetime medical costs in cases of catastrophic or severe injury. To function effectively, forensic economists have found it necessary to integrate their analyses with disciplines outside of economics.

A review of the major forensic economic journals shows that forensic economists use the scientific method and economic models to analyze areas of relevance. Research topics include (but are not limited to) household services, life expectancy, worklife expectancy, anticipated wage growth, inflation, and interest rates as well as their interrelationships, and the factors affecting the costs of life care plans.

For the forensic economist, longitudinal research to evaluate the accuracy of projections is extremely difficult to conduct. If John Smith is a welder and is injured, one of the estimates made by the forensic economist is how much income would he have earned absent the injury. This can never be truly known, since John Smith is now injured and the only post-injury data available are the earnings given his injury. Even post-injury earnings are difficult to obtain since the follow-up of injured clients is often not possible and never an easy task. Further consider that some settlement agreements are sealed so that the results cannot be known; a damage award is rarely as prescribed in the economic analysis thus obviating corresponding follow up; and the lack of an award, or a different award than presented by the economist, changes the opportunity costs and utility of post-litigation behavior. All of these likely occurrences contribute to a lack of longitudinal research because the methodology used by a forensic economist and the predictions derived from that methodology cannot be appropriately tested over time.

A consciousness about forensic economics has developed through the growing body of professional literature in the previously noted professional journals, and three professional associations and their conference affiliations with such organizations as the American Economic Association and Western Economics Association International. These professional forums and a growing number of electronic Internet list services and web sites allow forensic economists to exchange information ranging from data sources to the discussion of complex theoretical and applied concepts.

Thus, the forensic economist makes an important contribution to the process and goals of tort litigation; which in turn exists to serve the interests and needs of the litigants and society as a whole. The forensic economist makes this contribution through the appropriate application of sound economic theory and methodology such as human capital theory, opportunity cost, and replacement cost. The advancement and practice of forensic economics over time has been conducted by "experts" that mostly learned the appropriate methodologies by trial and practice since there have historically been few to no opportunities to learn the "trade" through formal or traditional education. In recent years the opportunities to learn the basic

methods and practices of forensic economics in the university classroom have substantially increased.

Forensic Economics in the Classroom

The practice of forensic economics is increasingly being aided in its development through college classroom opportunities covering its fundamental theory and methodology. Courses devoted to, or that include forensic economics serve to expand the base of individuals who are familiar with its tenets, and create an understanding of the discipline in the economic community. In addition to teaching the substance of forensic economics, such courses correspond well with a report sponsored by the American Economic Association Committee on Economic Education (AEACEE) (Siegfried et al. 1991a, 1991b, and 1991c). As stated by Bartlett and Slesnick:

In summary, the committee suggested that less theory be taught and that more real world applications be employed, that more connections to real world events be made, that a wider range of methodologies be used, that movement be made from focusing on the impact of small changes on market solutions toward the study of larger context and changes on the market; and finally, to get beyond textbooks. The committee wanted students to move beyond reading about what economists do and how they go about doing economics, to actually doing some economics themselves. However, to act like economists, students need to act less like traditional economic students and become involved in the learning process with the instructor, with other students, and with the material (Bartlett & Slesnick 1999, pp. 5-6).

Bartlett and Slesnick continue that forensic economic courses, through an emphasis on quantitative analysis, individual and group decision making, case report writing, and the presentation of results to an audience are an ideal vehicle for students to learn many of the practical skills required of college graduates today. This view is supported by Hirsch and Viscusi (1998) in their discussion of the valuable contribution that forensic economic concepts and activities made when included in a Labor Economics seminar and a Law and Economics class.

Courses in Forensic Economics

The following six institutions are known to have offered formal courses in forensic economics at the upper division level of undergraduate economic course work: Bellarmine University, Denison University, Seton Hall University, Penn State University, University of California, Irvine, and the University of Pittsburgh.

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Three institutions have taken the step of offering graduate level classes in forensic economics, University of North Alabama (UNA), Florida State University (FSU), and Marylhurst University (MU). UNA has had a sequence of elective graduate forensic economics courses listed in its catalogue for a number of years. FSU offered its first graduate forensic economics course in the Spring of 2000.

In the undergraduate courses, there has been a measure of consistency in both course content and instructional methods. Each of these courses has focused upon theory and application. All of the courses have featured a writing intensive approach with case studies utilized as examination instruments for both group and individualized study. To date, there has not been a formal textbook specifically designed to cover the subject matter. However, at least three books have been used in part or as texts: *Determining Economic Damages* (Martin 1988-2000), *Recovery for Wrongful Death and Injury: Economic Handbook* (Speiser 1994), and *Economic and Hedonic Damages* (Brookshire and Smith 1990). All of the six undergraduate classes have utilized Martin's annually updated volume, while some of the programs have supplemented this text with readings from sections of Speiser's and/or Brookshire and Smith's books, articles and readings from the macro and micro-economic literature, and articles and readings from the forensic economics journals.

Supplemental readings have included 15 subject areas with most coming from the *Monthly Labor Review* (MLR), *Journal of Forensic Economics* (JFE), *Journal of Legal Economics* (JLE), and a number of other legal journals, monographs and periodicals. Appendix II lists the 55 additional readings used to augment the primary texts with the most emanating from the JFE (28 of 55 papers or 50.90%). The fifteen general content areas are as follows:

- 1) Introduction to tort law;
- 2) Introduction to forensic economics;
- 3) The role of the forensic economist in civil litigation;
- 4) Data sources;
- 5) Estimating lost earnings streams;
- 6) Discounting future losses in terms of present value;
- 7) Complications (fringe benefits, self-consumption and taxes);
- 8) Partial disability cases;
- 9) Women in the workforce;
- 10) Evaluation of minors;
- 11) Household service loss;
- 12) Medical costs and life care planning;
- 13) Hedonic damages;

Topino, Slesnick, Gunderson, & Mai: *Forensic Economics in the Classroom*

- 14) Legal strategy; and
 - 15) Ethics, report writing and testimony.
- To this list, the authors would like to suggest a few additions covering such topics as: expected earnings versus earning capacity, employability analysis, and establishing pre-incident earnings base versus post incident offset (mitigation) wages.

Examples of Undergraduate Coursework

Frank Slesnick is a full-time professor at Bellarmine University, an institution that has traditionally valued teaching and student's application of knowledge as highly as research. Dr. Slesnick, has also had an active forensic economics practice for many years, has contributed to the forensic economics literature, and has served as President of NAFE.

Dr. Slesnick cited several specific motivations for offering a forensic economics course. First, the course is complementary to a law and economics course taught by another professor at Bellarmine. While the latter course emphasizes more general questions of efficiency and resource allocation, the forensic economics course largely takes the legal framework as a given and helps students learn how economic losses are valued within that framework. Second, many students are interested in careers in business or law and find a forensic economics course of relevant interest. Finally, as noted previously, many colleges are currently instituting programs that systematically introduce certain valuable skills to students that the literature on economic education indicates are important for college students to develop, and this course in forensic economics facilitates development in all of these areas.

Economic and Hedonic Damages (Brookshire & Smith 1990) was used as a text the first two times the course was taught, but has recently become somewhat dated as the discipline has developed over time. At present, the most current edition of *Determining Economic Damages* (Martin 1988-2000) is being used. This text provides an excellent foundation for understanding all of the most important aspects of forensic economics. Although this book was primarily written for attorneys, when supplemented by additional reading material from the forensic economics journals, it serves as a very useful resource and basis for students to understand the context and applications of forensic economics.

The additional readings in this course focus upon personal injury and death cases, reflecting both the preferences of the instructor and the material presented in the text. The additions to the topics in the text include an examination of tort law and reform of tort law. Further, these readings are both current and not overly technical since it is assumed that students have had only an introductory course in economics. The course is designed to

foster an understanding of the value of current research and application methods while considering all legitimate perspectives of an issue, especially where consensus does not usually exist.

The method of delivery and evaluation is a combination of traditional and cooperative learning exercises. Although there are traditional written exams, they are entirely essay in format. Sample questions are handed out ahead of time. These questions help motivate students to understand the material and integrate their understanding into a useful context. In addition, the students are formed into groups (teams) of four or five for casework, with each team receiving the outline of a different case scenario. For example, one group is asked to estimate the economic damages of a union truck driver, another a young musician with little job experience, and still others have to estimate damages for individuals who have had other or no work experience. Each scenario is designed to bring out different problems related to the estimation of economic loss. Each group writes up an analysis and presents their findings in class. Further, the groups perform several iterations of their case throughout the semester with each requiring progressively more difficult (and realistic) projections of the injured party's economic loss.

Toward the end of the semester, a tape is shown of a forensic economic expert providing testimony in court with focal questions handed out prior to showing the tape. The instructor also invites two attorneys, one primarily defense-oriented and the other primarily plaintiff-oriented, to speak to the class about the role of forensic economists both in the courtroom and prior to testimony. The tape and the invited speakers add a degree of realism and application context to the topic that is difficult to obtain in other ways. A syllabus for this course can be found in Appendix I.

Hersch and Viscusi have described the use of forensic economics and a mock trial format at Duke University in a labor economics class and a law and economics class.

A major theme of the law and economics course was the development of the economic principles for setting damage. This course addressed issues including whether the purpose of a damages award in a personal injury case is to compensate survivors for their economic loss, to make the victim 'whole,' or to provide appropriate deterrence values for the injury. The labor economics class did not include material specifically related to evaluating damages but instead undertook a fuller exploration of the human capital and wage determination literature, which provides the basis for lost-earnings analyses. (Hersch & Viscusi 1998, pp. 302-303)

The trial was based upon an actual case. Teams were formed representing both sides of the case and were given two weeks to prepare their arguments. Students also made up the jury with an effort to make its composition realistic. Teams could assign tasks at their discretion with the constraint that every member had to participate in some fashion. One variation that the authors tried was to include a deposition phase prior to the trial. Among other economic principles examined were calculation of present value, estimation of wage loss due to a decline in human capital, the role of gender and race in the estimation of earnings, determining pre-death consumption levels, and valuing non-market (household) services. The authors concluded:

We found that staging a mock trial to assess damages in a wrongful death case was an outstanding method of motivating the students to apply economic concepts and to "think like an economist." The advantages are obvious: Students have an opportunity to use economic analysis in a creative way in a real-world situation. The team aspect of the exercise and the use of oral presentations proved popular with students, many of whom were enthusiastic about the chance to get to know their classmates better in a working situation (Hirsch & Viscusi 1998, p. 310).

Graduate Level Courses

Until recently, course offerings in forensic economics at the graduate level have been offered primarily on a professional development seminar format and as discrete elective courses within a related curriculum. Beginning in 1994, Marylhurst University annually offered one credit Graduate "Professional development seminars" on topics in forensic economics in conjunction with the annual conferences of the American Rehabilitation Economics Association (AREA). The 10-hour seminars are conducted over two days before the start of the conference. These seminars have most often been team instructed by two or more highly qualified, well-known and experienced practitioners of forensic economics (many with academic positions in addition to performing consulting work). In response to the demand for this type of focused learning opportunity, in 1998 and 1999 Marylhurst offered two pre-conference seminars each year. One seminar focused on the introduction to forensic economics and the generic theoretical underpinnings of common practice and accepted methodology, while the other dealt with more advanced focal topics.

The coordinator of the Marylhurst University seminars, Robert Male, summarized the instructional philosophy and goals as follows. The learning environment was created and managed similar to a graduate seminar with an emphasis on the active engagement of all participants in the learning process. The classes utilize inquiry, dialogue, and discourse to draw upon all

available knowledge and expertise, and provide an optimum learning opportunity for all participants (including the instructors). The nature of forensic economics is such that most often there is not just one correct answer but also many good questions, perhaps without the expectation of a "singular" final answer. Thus, the application and use of economic theory and methodology was stressed in these classes with the "process" often being just as important in the learning and development of the participants as the content.

The University of North Alabama (UNA) has for some time had a series of forensic economics courses that can be taken for elective credit in the School of Business. Michael Butler was Dean of the School of Business UNA for four years. Dr. Butler has also been an active consulting forensic economist for many years as well as serving as Editor of the *Journal of Legal Economics* and President of AAEEFE. In 2000 and 2001, the College of Business at UNA sponsored the one credit pre-conference graduate seminars at the AREA conferences. The courses offered corresponded directly to the forensic economics courses already listed in the UNA Catalog. Dr. Butler left UNA to become Dean of the College of Business and Professional Studies at Angelo State University, San Angelo, Texas in June of 2001.

These authors believe that the aforementioned professional development seminars have been taken by students primarily because of the scarcity of forensic economic content in traditional college courses, especially at the graduate level. With the absence of formal forensic economics learning opportunities, these universities have met a critical need of societal and judicial importance. Participants in these seminars have been primarily graduate degree vocational experts who wish to learn loss valuation methodologies. However, there has also been a sizeable percentage of participants with graduate degrees in Economics, Finance, Business, and Accounting that have taken these seminars to learn how to adapt their prior learning to the skills and methodologies associated with the practice of forensic economics.

In the Spring Semester, 2000, Michael Piette taught a course in Forensic Economics at Florida State University (FSU). Economics 3983/5936 was open to students in the Economics MA and Ph.D. programs, the MBA, and Ph.D. programs in the Business School and to second year Law School students. The course focused upon the applied field of forensic economics, the application of general theories and methodologies of economics to the estimation of pecuniary losses and/or proof of liability in litigation. ECON 5936 was designed to foster the detailed examination of the economic and legal aspects of various calculation methodologies, relevant literature, data sources, and areas of disagreement among economists. Each section of the

course began with a theoretical review of the concept under consideration followed by practical applications. Guest speakers, including vocational experts, attorneys, and other practitioners served to integrate the application of theory and methodology in the real world. Class readings came from the main text *Evaluating Economic Damages* by Albert N. Link, and folders with readings from *Economic/Hedonic Damages* by Michael L. Brookshire and Stan V. Smith; and the *Journal of Forensic Economics* (JFE), *Journal of Legal Economics* (JLE), *Litigation Economics Digest* (now LEP), and *The Earnings Analyst* (TEA). The syllabus for this course can be found in Appendix I.

Thomas Ireland and some of his colleagues in the Economics Department at the University of Missouri at St. Louis (UM-SL) have gotten approval to offer a graduate level Certificate Program in Forensic Economics. This program and the courses that constitute it will be included in the UM-SL catalog for the 2001-2002 Academic Year with the first courses being offered in Fall 2002 or Spring 2003. "Certificate programs" are used at UM-SL to provide graduate level training that does not require as many hours of coursework as a master's degree. There will be an explicit statement on the corresponding web site that completion of this program does NOT constitute "certification" by the university that the individual is qualified to testify in court. The purpose of this program is to provide the kind of knowledge and analysis skills that many forensic economics practitioners learned individually on an ad hoc basis over the past 20 to 30 years. The standards for each of the courses will be such that a student in the regular master of economics program could take these courses on a full credit basis toward a regular Master of Arts degree at UM-SL. It is intended that students in these classes will do as much work and develop the same level of analytic understanding as in other masters level courses.

The following is an edited description of the UM-SL program as written by Thomas Ireland, reviewed by S. Feigenbaum and R. Sorensen, and subsequently posted on the NAFFE List Service on July 17, 2001:

Program Description

The Certificate in Forensic Economics Program is designed to give persons with a master's or higher degree special training in the requirements for preparing economic reports for selected areas of litigation. Persons would ordinarily seek this certificate as part of their preparation for forensic economics consulting work associated with litigation, including testimony about damages or other issues such as the statistical probability that employment discrimination has taken place. Certificate completion requires 16 credit hours of coursework that will be offered in conjunction with the regular

Master of Arts Program in Economics at the University of Missouri at St. Louis. Many students will complete four of those hours through an internship program, but students with substantial consulting experience may satisfy this requirement with either a fifth regular course including an added term project, or a masters level thesis on a topic approved by the director of the certificate program.

Target Population

This program is designed for persons with masters degree or higher, though persons with certifications in actuarial science or public accounting may be admitted with less than a master's degree at the discretion of the director of the certificate program. Regardless of the degrees achieved, an applicant must have or must achieve the equivalent of the following background: Intermediate Microeconomic Theory; Intermediate Macroeconomic Theory; and Basic Statistics. In addition, course work in Labor Economics and Law and Economics is recommended.

Justification for this new program

There is an unmet need, both in St. Louis as well as nationally, for well-trained experts in the area of applied forensic economics (valuation of lost earning capacity, wage discrimination; valuation of businesses, etc.). The goal of national accessibility for participants will be met by adopting a flexible, "executive" type of format and schedule.

Finally, this program will provide an opportunity for St. Louis-based economic analysts, accounting, and law firms to meet previously unmet forensic economics learning and development needs.

New Courses for the Certificate in Forensic Economics
Economics 444: Assessment of Damages in Personal Injury and Wrongful Death.

This course reviews existing methodologies for standard damage categories in forensic economic analysis. Topics included are: Methods for establishing base earnings; use of age-earnings profile data; developing projections of earnings rate increases; choosing among potential discount rates; analysis of fringe benefit packages; statistical worklife tables versus joint conditional probabilities of earnings loss analysis (the LPE system); net discount rates and the stationarity controversy; concepts and measurement of household services (sometimes also called family services); analysis of personal

consumption and/or personal maintenance for wrongful death cases; the hedonic damage controversy.

Economics 445. Law and Forensic Economics.

This course reviews issues of law that control the way forensic economic analysis must be conducted to be admissible in the courtroom. Topics included are: Introduction to common law; the statutory basis for wrongful death damages; the "make whole" principle versus efficient deterrence and efficient compensation; federal and state court systems; differences by class of litigation; how to determine what law applies to what actions; the legal implications of "preferred jury instructions;" what to ask for from an attorney before beginning an analysis in a new legal venue; how to find and retrieve legal cases; standards for admissibility of economic expertise (Frye, Daubert, the Federal Rules of Evidence, Joiner, and Kumho); working with an attorney on legal matter.

Economics 446. Statistical Research in Forensic Economic Analysis.

This course will include review of basic statistical techniques, data sources, and reliability factors. A special problem in forensic economic assessment is that factual information relating to individual tort victims is often very limited, so this course will deal extensively with issues relating to inferences that may be developed with very little data. This course will also deal with issues relating to scientific admissibility, paralleling discussion of that topic from Economics 406. Finally, this course will involve having students work with the internet to download data.

Economics 447. Writing Reports and Papers in Forensic Economics.

This course will be a professional writing course. Students will be expected to prepare both a damages analysis report suitable for litigation and a paper written in publication format for a professional journal or law review. Because there is a significant need for short papers considering the economic effects of specific laws and court cases in specific legal venues, some these papers will be publishable in specialized journals, legal publications and law reviews. Topics will include: different styles in report development; adequate citation of

sources; and how to conduct and report a literature review for a professional research paper.

Economics 448. Labor Economics for Forensic Economists.

This course will focus on areas of labor economics that are of special importance in forensic economic analysis. Topics will include: Human capital as a recoverable asset in tort law; age-earnings cycles; variations in age-earnings cycles over time; earning capacity versus expected earnings of workers; when does earning capacity end; Becker's theory of the family; family bargaining theory; the theory of discrimination; tests for determining whether discrimination has occurred.

Economics 449. Internship in Forensic Economics.

This course will include an internship at a law firm, accounting practice with litigation division, or forensic consulting firm. Internship activities and products will be largely monitored through the Internet. This is a four credit hour course and regular reports from intern students at a professional standard of writing will be expected.

Program Structure

For this program to appeal to a national marketplace, these courses will be structured as a mix of time on campus and involvement through the Internet. Final details have not been worked out, but weekends once a month or weekday sessions at the beginning and ending of course work on campus are possibilities being considered. Details will be determined sometime during the fall of 2001. A website for this program will become available as a "work-in-progress" by about October 1, 2001 at <http://www.unm.edu/~econ/ForensicEconomics>.

While the undergraduate and graduate forensic courses and the certificate program described above may have some different purposes, they all seem to achieve several of the goals outlined by the AEACEE task force. First, they focus not only on theory, but also on application. Students are given several opportunities to use the economic concepts they are learning in the course to evaluate the pecuniary losses of an individual as provided by the case. Second, students develop and use a broader range of empirical tools than would normally be found in more traditional elective courses in the curriculum. Moreover, the forensic economics courses as taught with the team and case format provides broader learning opportunities for students -- again meeting the stated breadth requirement of Siegfried, et al.:

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All courses that can satisfy the breadth requirement should contain a substantial active-learning component, such as oral and/or written reports, interactive computer simulations, class discussions, or laboratory exercises, and should draw on a broad array of source materials. These courses should not rely exclusively on textbooks for assigned reading. (Siegfried, et al. 1991a, p. 217)

Summary and Conclusions

The diversity of subject matter, the need to operate within guidelines prescribed by legal jurisdiction, and the multi-disciplinary nature of forensic economics is both a blessing and a curse. Liberal integration of methods and techniques has occurred with the disciplines of law, accounting, finance, statistics, and vocational rehabilitation. Correspondingly, it has thus taken a substantial amount of time for forensic economics to define its territory and justify its methodology, findings and boundaries within the academic economics community.

The application of forensic economics within the legal system is comprehensive. Although discussion in this paper primarily focused on analyses relating to litigation for personal injury and death, the forensic application of economic theory and methodology is also common in cases ranging from antitrust, employment discrimination and environmental law, malpractice, product liability, and breach of contracts; and even administrative law hearings about the national immunization program, marital dissolution, and railroad retirement (FELA) cases.

The significant promise for forensic economics resides in its necessity and utility. In academic settings forensic economics draws upon, but can also enhance the study of traditional economic areas such as labor economics, law and economics, econometrics, the economics of discrimination, and women in the labor force. Forensic economics content and methodologies can also enrich traditional graduate business curricula in accounting, finance, money and banking, and research methodology. There seems to be sufficient rationale to encourage the development of forensic economics courses within existing economics curricula and this is now happening at an increasing rate,

Appendix I Forensic Economic Course Syllabi

Economics 418
Fall 2000
Forensic Economics

Instructor: Frank L. Slesnick, Ph.D.

Bellarmine University
Louisville, KY 40205-0671

What This Course Is All About

Forensic Economics, as pertains to this course, is the study of how economists assist in the courtroom to measure economic damages in a wide variety of circumstances. Such circumstances include auto injuries, medical malpractice, divorce, lost business profits, and others. Economists are called upon within the legal system in other types of cases such as antitrust suits and problems concerning the environment, but we shall focus on situations that primarily involve individuals rather than businesses or classes of people. This course naturally lends itself to helping develop a number of skills that are important to the student. As is true of all economics courses, Forensic Economics will emphasize critical thinking. But in addition it will be important for the students to express themselves publicly, to write a logical and coherent report, and be able to obtain and analyze publicly available data. Further, Forensic Economics really has two dimensions. The "Economics" dimension arises because the analysis depends upon economic theory. But the "Forensic" dimension, which pertains to the how economists function in the courtroom, is as much art as science. We shall see that while economists may understand all the relevant theories, if they cannot impart this information to the jury they will not be effective.

Required Reading

The following abbreviations will be used throughout the syllabus:

JFE	Journal of Forensic Economics
JLE	Journal of Legal Economics
LED	Litigation Economics Digest
MLR	Monthly Labor Review
EL	Economica LTD

Toppino, Slesnick, Gunderson, & Male: *Forensic Economics in the Classroom*.

The following represents another set of abbreviations that corresponds to the location of the articles:

B - Article is located in a binder available for purchase at the bookstore.

S - Copies of articles provided to each group of students. (Groups will be formed at the beginning of the course.) These articles represent assigned reading for which permission for copying could not be attained.

R - Several of the readings listed below will be for reference only. These are articles that do not have to be read in depth for exam purposes. Rather, they provide background and data that may prove useful for projects assigned throughout the course. They are available at the reserve desk of the library.

- I. General Introduction to Tort Law
 - ♦ Robert Cooter and Thomas Ulen, *Law and Economics*, Scott Foresman, 2000, 3rd ed., pages 287-299 and 329-341. (S)
- II. The Role of the Forensic Economist
 - ♦ Text, Chapter 1.
 - ♦ Walter Johnson and Edward Sattler, "The Importance of the Selection Process in Maintaining Expert Credibility: A Guideline for Choosing the Economist," JLE, Vol 2, No 3, pages 3-11.
- III. Data Sources
 - ♦ Text, Chapters 2 and 18 (peruse this Chapter).
- IV. Examining Lost Earnings - Base Level and Projections
 - ♦ Text, Chapters 3, 7, and 10.
 - ♦ General Articles
 - o Francine Blau, et al., *The Economics of Men, Women, and Work*, Prentice-Hall, Upper Saddle River, NJ, 1998, pages 86-90 and 141-156.
 - o MLR, November, 1997. (Reference Only)
 - o Murray Gendell and Jacob Siegel, "Trends in Retirement Age by Sex," MLR, July, 1992, pages 22-29. (Reference Only)
 - o Francine Blau, et al., *The Economics of Men, Women, and Work*, Prentice-Hall, Upper Saddle River, NJ, 1998, pages 106-118. (Reference Only)
 - ♦ Forensic Articles
 - o Two articles on earning capacity, EL.
 - o Everett Dillman, "The Age-Earnings Cycle - Earnings by Education," JFE, Vol II, No. 1, pages 105-116.

- V. Discounting Future Losses
 - ♦ Text, Chapter 11 and 12.
 - ♦ Two articles on discount rates, EL.
- VI. Adding Complications to the Earnings Loss Estimate
 - ♦ Fringe Benefits
 - o Text, Chapter 4.
 - ♦ Personal Consumption Deductions
 - o Text, Chapter 5.
 - o Walter Lierman, et al., "Patton-Nelson Personal Consumption Tables Updated," JFE, Vol XI, No 1, pages 3-7.
 - ♦ Taxes
 - o Text, Chapter 8.
- VII. The Special Case of Partial Disability
 - ♦ Gary Albrecht, "Forecasting the Earnings of a Partially Disabled Individual," JLE, Vol 1, No 2, pages 50-57.
 - ♦ Walter Oi, "Employment and Benefits for People with Diverse Disabilities," in *Disability, Work, and Cash Benefits*, edited by Jerry Mashaw, et al., W.R. Upjohn Institute, Kalamazoo, MI, 1996, pages 109-123.
 - ♦ Edward Yelin and Patricia Katz, "Labor Force Trends of Persons With and Without Disabilities," MLR, October, 1994, pages 36-42. (Reference Only)
- VIII. The Special Case of Women
 - ♦ Howard Hayghe, "Developments in Women's Labor Force Participation," MLR, September, 1997, pages 41-46. (Reference Only)
 - ♦ Article on earnings of women, EL.
- IX. The Special Case of Children
 - ♦ L.E. Johnson, "Estimating Economic Loss for a Minor with Eye Loss: a Case Study," JLE, Vol 7, No 2, pages 51-58.
 - ♦ Two articles on earnings of minors, EL.

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- X. Other Types of Losses**
- ◆ Household Services
 - Text, Chapter 6.
 - Harvey Paul, "The Role of the Husband/Father in Household Output," JFE, Vol 4, No 2, pages 203-209.
 - Francine Blau, et al., *The Economics of Men, Women, and Work*, Prentice-Hall, Upper Saddle River, NJ, 1998, pages 51-58.
 - Four articles on household services, ELI.
 - "The Dollar Value of a Day," published by Expectancy Data, 1998, (*Reference Only*)
 - ◆ Medical Costs
 - Text, Chapter 9.
 - Frank Slesnick, "Forecasting Medical Costs in Tort Cases: The Role of the Economist," JFE, Vol IV, No. 1, pages 83-99.
 - Article on life expectancy, ELI.
 - ◆ Hedonic Damages
 - Tests 15-1 through 15-27 and 15-46 through 15-48.
 - Stan Smith, *Hedonic Damages in Personal Injury and Wrongful Death Litigation*, in *Litigation Economics*, edited by Patrick Gaughan and Robert Thornton, JAI Press, Greenwich, CT, 1993.
 - Thomas Ireland, et al, "Why Hedonic Measures Are Irrelevant to Wrongful Death Litigation," JFE, Vol 2, No 1, pages 49-54.
- XI. Putting the Report Together**
- ◆ Text, Chapter 13.
- XII. Practical Tips and Strategies for the Attorney and the Economic Expert**
- ◆ Text, Pages 14-10 through 14-27 and Chapter 16.
 - ◆ Steve Cohen, "Malpractice: Behind a \$26-Million Award to a Boy Injured in Surgery," New York, October 1, 1990, pages 41-47.
- XIII. Tort Reform**
- ◆ Walter Olson, *The Litigation Explosion*, Walter Olson, Dutton Books, New York, 1991, pages 297-316 and 339-348.
 - ◆ Neil Vidmar, *Medical Malpractice and the American Jury*, University of Michigan Press, Ann Arbor, MI, 1997, 237-248.

What You Need to Know
 Testing in this course will be somewhat traditional. Specifically, the breakdown is as follows:

Two Hourly Exams	25% apiece
Final Exam	35%
Group Report and Class Discussion	15%

The exams will consist of essays and problems. Every few weeks I will hand out a list of study questions, which should be reviewed. About one-half of each exam will be extracted from these study sheets. The remainder of each exam will be taken from the text or class lectures.

The group grade will be based upon several reports, which evaluate various cases handed out the second half of class. Each group will type up their analysis. Further, each group will briefly present their answers to the class. The Grade will depend upon both the written report and class presentation. Since the class is so large, I will likely break up the class in half for the presentations. (There are 33 individuals signed up for this class.)

Reading and Other Course Activities

The syllabus lists the required text assignments and articles. However, new articles are always appearing in the literature so the instructor reserves the right to change articles throughout the Semester. Naturally, you will be given ample warning of any changes. Besides readings and class projects, the instructor will likely bring in some attorneys to speak to the class concerning their use of forensic economists.

Textbooks:

The field of forensic economics is a relatively new sub-discipline in economics. As a result, there are no textbooks that completely satisfy the needs of the discipline, particularly at the graduate level. The readings in this class are therefore drawn from a variety of sources as discussed below. The main text for the class is *Evaluating Economic Damages* by Albert N. Link. This text is really a handbook or a primer. It will just hit the surface of the topics and you will need other sources for a depth of coverage.

Additionally, *Folders* of readings have been placed on reserve in the Bellamy "Copy Center" (Room 217) for your use. Much of the *Folders* are composed of two main sources. First, we will use chapters from a book by Michael L. Brookshire and Stan V. Smith, *Economic/Hedonic Damages* (Cincinnati, Ohio: Anderson Publishing Co., 1990). I would have adopted this as the textbook for the class but it is out of print.

The second group of material in the *Folders* is taken from periodicals, journals and additional books. Many of the articles are taken, with permission, from the *Journal of Forensic Economics* (JFE), the *Journal of Legal Economics* (JLE), the *Litigation Economics Digest* (LED), and the *Earnings Analyst* (EA). Additional articles are from various journals or writings of interest provided to me by other forensic practitioners.

Required Readings:

As previously indicated, there is no single textbook for the class. Rather, the Topic Outline and Required Readings that follow provide all of the assigned readings. Please note that not every article on the reading list will be contained in the *Folders*. Many are there for additional reference only and not every one of the items contained on the Topic Outline will be assigned. Actual assignments are indicated with an * in front of the reading. Only these readings are in the *Folders* and are assigned.

In addition to the readings, the course will include a number of Case Studies from actual litigation. These cases have been selected to demonstrate some of the topics under consideration.

Evaluation and Grading:

Progress and learning in the course will be evaluated in several ways. There will be written assignments, team projects and presentations, a written economic loss appraisal report, and several tests. Virtually all of the required written work will be in the form of essays, problems and reports, supported

**Economics 398316936
Spring Semester 2000
Forensic Economics**

Tuesday and Thursday: 11:00-12:15

Instructor: Michael J. Piette, Ph.D.

Economics Department, Room 252, Bellamy Building

Office Hours: 10:00 to 11:00 Tuesday and Thursday and by appointment

Office Phone: 644-7093 (Economics Department)

906-9045 (Analytical Economics, Inc.)

E-Mail Address: eco-5936-03@dametacs.fsu.edu (email for this course)

Web Page Address: <http://eco5936-03.ssfu0.fsu.edu> (web page for this course)

Office Phone: 644-7093 (Economics Department)

Course Overview:

This course explores the field of forensic economics, the application of the general theories and methodologies of economics to the estimation of pecuniary losses, and/or "proof" of liability in litigation. At the most basic level, it is the study of how economists assist in the legal process. It includes the evaluation of economic damages under both tort law as in the case of personal injury and wrongful death claims as well as those related to allegations of employment discrimination. The course provides the framework to examine in detail the economic and legal aspects of various calculation methodologies, relevant literature, data sources, and areas of disagreement among forensic economists.

Where possible, each section of the course will start with a theoretical review of the concept under consideration followed by practical applications. Depending upon the topic, guest speakers will be invited to the class, including vocational experts, attorneys, and other economists and practitioners.

Prerequisite: Principles of Economics. A class in Labor Economics would be helpful.

Course Objectives:

To apply economic concepts and methodology to real-world problems.
To apply economic tools of analysis to a variety of valuation issues.
To focus on apparent conflicts between economics and the law.
To reinforce writing, computer, research, and oral presentation skills.

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by tables, graphs and statistical analysis. Teams will be composed of between two and four persons, depending on the size of the class.

A breakdown of the weights of the various evaluations is indicated below:

Test #1	20%
Test #2	20%
Team reports	20%
Team oral presentation	20%
Final exam	20%

The exact dates for exams and other assignments will be determined in class and will depend in part on class size and student composition. Some students are taking this class for graduate credit as Economics 6936. Graduate students will be required to present to the class their summary of one of the journal articles listed in the Topics and Reading Assignments section below. The choice of a specific article for presentation will be made by the student with the agreement of the instructor.

All exams must be taken and all assignments completed. If you miss any exam or any assignment for a *legitimate reason*, you must contact the instructor to arrange for make-up exams. Under special circumstances, you may be allowed to make-up the exam or the assignment.

Attendance:

Attendance is not taken in this class. However, empirical evidence has consistently indicated a strong positive correlation between attendance and subsequent performance in the class. The choice is yours when it comes to attendance.

Notice to Students with a Disability:

The Florida State University encourages qualified persons with disabilities to participate in its programs and activities. If you anticipate needing any type of accommodation in this course or have questions about physical access, please inform me as soon as possible.

Honor Code:

Academic dishonesty as it relates to quizzes, tests, and other demonstrations of knowledge by students in this course will not be tolerated. The Academic Honor System of the Florida State University is based on the premise that each student has the responsibility to (1) uphold the highest standards of

academic integrity in the student's own work, (2) refuse to tolerate any violation of academic integrity in others, and (3) foster a high sense of integrity and social responsibility. Absolutely no cheating of any type will be tolerated. All instances of academic dishonesty will be dealt with immediately and harshly, either with a zero in the test or the assignment or, if warranted, expulsion from the class.

Topics and Assigned Readings

Economics 3933/5536: Forensic Economics

1. General Introduction to Tort Law and Discrimination Statutes
 - Albert N. Link, *Establishing Economic Damages*, Chapter 1, An Overview, and Chapter 2, The Concept of Present Value.
 - Michael Brookshire and Stan Smith, *Economic/Hedonic Damages*, Chapter 1, Introduction.
 - Michael J. Piette, "Economic Methodology and the Analysis of Employment Discrimination," *JFE*, Vol. 4, No. 3, Fall 1991, pp. 307-16.
2. The Role of the Economist in Litigation
 - Brookshire and Smith, Chapter 2, Issues Preliminary to a Written Analysis of Economic Loss.
 - Pauline Fox, "The Economic Expert in Wrongful Death/Personal Injury Cases: Workable Competition or Monopoly Power?" *JFE*, Vol. 4, No. 3, Fall 1991, pp. 255-62.
3. A Framework for Estimating Economic Damages
 - Link, Chapter 3, Economic Losses in Wrongful Death Cases and Chapter 10, Choosing A Discount Rate.
 - Stephen Hornar and Frank Slesnick, "The Valuation of Earnings Capacity: Definition, Measurement and Evidence" *JFE*, Vol. 12, No. 1, Winter 1999, pp. 13-32.
 - David C. Toppin, "Mitigation Earnings Capacity," The Earnings Analyst, (hereafter EA), Vol. II, 1999, pp. 55-71.
4. Growth Rates, Discounting, and Pre-Trial Interest
 - Link, Chapter 4, Estimating Future Earnings.
 - Brookshire and Smith, Chapter 3, The Basics of Estimating Wage or Salary Loss, including Appendix 1, Appendix 2, and Appendix 3.
 - Ronald Kutscher, "Historical Trends, 1950-92, and Current Uncertainties," *Monthly Labor Review*, Nov. 1993, pp. 3-10.
 - "Real Interest Rates and Total Offset in Computations of Damages in Death and Disability Cases, *Connecticut Bar Journal*, Vol. 62, 1988, pp. 212-30.

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5. Modifications to Gross Earnings: Life and Worklife Expectancy
 - Link, Chapter 5, Estimating Life Expectancy.
 - L.E. Johnson et al., "Estimating Economic Loss for a Facially Disfigured Minor: A Case Study," *Journal of Legal Economics* (hereafter *JLE*), Vol. 3, No. 2, July 1993, pp. 1-9.
 - Frank Slesnick and Robert Thornton, "Life Expectancies for Persons with Medical Risks," *JFE*, Vol. 7, No. 2, Spring/Summer 1994, pp. 197-207.
 - Robert Thornton and Frank Slesnick, "New Estimates of Life Expectancies for Persons with Medical Risks," *JFE*, Vol. 10, No. 3, Fall 1997, pp. 285-90.
6. Modifications to Gross Earnings: The Age-Earnings Cycle
 - Link, Chapter 6, Estimating Work Life and Probability of Employment.
 - Everett Dillman, "The Age-Earnings Cycle -- Earnings by Education," *JFE*, Vol. 2, No. 1, December 1988, pp. 105-16.
 - James E. Ciecka, "A Survey of the Structure and Duration of Time Periods for Lost Earnings Calculations," *JLE*, Vol. 4, No. 2, Summer 1994, pp. 39-50.
 - B. Perry Woodside, III, C. Donald Wiggins and John J. Venn, "Assessing Lost Earnings Capacity for an Injured Minor," *JLE*, Vol. 1, No. 3, Dec. 1991, pp. 95-102.
 - Andrew Gill and Jack Poley, "Predicting Educational Attainment for a Minor Child: Some Further Evidence," *JFE*, Vol. 9, No. 2, Spring/Summer, 1996, pp. 101-12.
 - Robert Thornton, James Rodgers and Michael Brookshire, "On the Interpretation of Age-Earnings Profiles," *Journal of Labor Research*, Vol. 17, No. 2, Spring 1997, pp. 351-65.
 - Murray Gendell and Jacob Siegel, "Trends in Retirement Age by Sex," *Monthly Labor Review*, July 1992, pp. 22-29.
7. Modifications to Gross Earnings: Estimating Taxes
 - Link, Chapter 7, Estimating Future Tax Liabilities.
 - W. Cris Lewis and Tyler J. Bowles, "Alternative Approaches to Tax Adjustments in Appraising Economic Loss," *JLE*, Vol. 6, No. 1, Spring/Summer, 1996, pp. 27-38.
8. Estimating the Earnings of Women
 - Frank P. Corcione and Robert J. Thornton, "Female Work Experience: Voluntary vs. Involuntary Labor Force Activity," *JFE*, Vol. 4, No. 2, Spring/Summer 1991, pp. 163-74.
9. Estimating the Earnings of Minorities, Retirement-Age Persons, Professionals and Other "Special" Occupations
 - Link, Chapter 11, Special Cases Involving Wrongful Death.
 - Brookshire and Smith, Chapter 7, Special Cases.
 - Ralph J. Brown, "Loss of Earning Capacity in the Case of a Farmer," *Litigation Economics Digest*, Vol. 1, No. 1, Fall 1995, pp. 1-11. (Peruse)
 - "Measuring Years of Healthy Life," *Family Economics and Nutrition Review*, Vol. 9, No. 1 (1996), pp. 47-49.
10. Estimating Fringe Benefits
 - Link, Chapter 9, Estimating Fringe Benefits.
 - Brookshire and Smith, Chapter 4, Fringe Benefits.
11. Estimating Lost Household Services
 - Link, Chapter 12, Non-Market Economic Losses.
 - Brookshire and Smith, Chapter 5, Household Services.
 - Michael Leonesio, "Recent Trends in Women's Use of Time and Their Implications for Assessing the Replacement Cost of Household Services," *JFE*, Vol. 1, No. 2, May 1988, pp. 47-54.
 - Thomas Ireland and John Ward, "Replacement Cost Valuation of Productivity by Homemakers: Conceptual Questions and Measurement Problems," *JFE*, Vol. 4, No. 3, Fall 1991, pp. 297-305.
12. Estimating Personal Consumption Deductions
 - Link, Chapter 8, Estimating Personal Consumption Adjustment, and Chapter 13, Economic Losses in Wrongful Death Cases: A Summary.
 - Ronald A. Dulaney, "Estimating Decedents' Consumption Expenditures in Wrongful Death Actions: Some Refinements," *JLE*, Vol. 1, No. 2, July 1991, pp. 94-98.
 - Christopher Bruce, "Determination of Personal Consumption Expenditures in a Fatal Accident Action: A Note," *JFE*, Vol. 10, No. 3, Fall 1997, pp. 291-96.
13. Estimating Economic Losses in Personal Injury Cases Involving Partial Disability
 - Brookshire and Smith, Chapter 8, Economic Losses in Personal Injury Cases Involving Partial Disability.
 - Gary Albrecht, "Forecasting the Earnings of a Partially Disabled Individual," *JLE*, Vol. 1, No. 2, July 1991, pp. 50-57.

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14. Estimating Medical and Institutional Care Costs
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 - Brookshire and Smith, Chapter 6, Medical and Institutional Care Costs.
 - Frank Slesnick, "Forecasting Medical Costs in Tort Cases: The Role of the Economist," *JFE*, Vol. 4, No. 1, Winter 1990, pp. 83-99.
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 - Thomas Ireland et al., "Why Hedonic Measures Are Irrelevant to Wrongful Death Litigation," *JLE*, Vol. 2, No. 1, March 1992, pp. 49-54.
 - Thomas Depperschmidt, "Judicial Attitudes on Hedonic Damages: A Door Only Partially Opened in *Sherrod v. Berry*," *JLE*, Vol. 2, No. 1, December 1988, pp. 25-36.
16. Preparing an Expert Report
 - Brookshire and Smith, Chapter 10, Pre-Trial Tasks and Issues.
 - Brookshire and Smith, Chapter 11, Economic Damages at Trial.
17. Professionalism and Ethical Principles
 - Thomas Ireland, "The Role of a Defense Economist in Personal Injury/Wrongful Death Litigation," *JLE*, Vol. 2, No. 2, July 1982, pp. 19-29.
 - Frank D. Tinari, "Competition for Forensic Economists and Their Ethical Behavior," *JFE*, Vol. VI, No. 3, Fall 1993, pp. 263-69.
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 - Brookshire and Smith, Chapter 12, The Law and Public Policy.
 - Peter Schuck, "The New Ideology of Tort Law," *Public Interest*, Summer 1988, pp. 93-109.
 - Paul Rubin, "The Next American 'Tort Crisis,'" *Wall Street Journal*, December 28, 1989.

Appendix II Supplemental Readings (general)

Section One: Intro to Tort Law

- 1) Cooter, Robert and Thomas Ulen. 2000. *Law and Economics*, 3rd Ed. Reading, MA: Addison-Wesley. 326-340.

Section Two: Intro to Forensic Economics

- 2) Ward, John, and Jerry Olsen. 1994. *Forensic Economics: The Development and Outlook for the Field. Litigation Economics* edited by Patrick A. Gaughan and Robert J. Thornton. Greenwich: JAI Press. 1-13.
- 3) Johnson, Walter D., and Edward L. Sattler. 1992. The Importance of the Selection Process in Maintaining Expert Credibility: A Guideline for Choosing the Economist. *Journal of Legal Economics* 2(3) (December): 3-12.
- 4) Tinari, Frank D. 1993. Competition for Forensic Economists and their Ethical Behavior. *Journal of Forensic Economics* 6(3) (fall): 263-269.
- 5) Fox, Pauline. 1991. Economic Experience in Wrongful Death and Personal Injury Cases: Workable Competition or Monopoly Power? *Journal of Forensic Economics* 4(2) (fall): 255-268.

Section Four: Data Sources
None

- Section Five: Estimating Lost Earnings
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 - 7) BLS Projections to 2005. 1995. *Monthly Labor Review* 118(11): 3-84.
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- 12) Cicakka, James E. 1994. A Survey of the Structure and Duration of Time Periods for Lost Earnings Calculations. *Journal of Legal Economics* 4(2) (summer): 39-50.
- 13) Educational Attainment: Total Money Earnings in 1997 of People 18 Years Old and Over by Age, Work Experience in 1987, and Gender. 1998. U.S. Bureau of the Census, Current Population Reports, P60-200. *Money Income in the United States: 1997 (With Separate Data on Valuation of Noncash Benefits)*, U.S. Government Printing Office, Washington, DC.
- 14) Slesnick, Frank, and Robert Thornton. 1994. Life Expectancies for Persons with Medical Risks. *Journal of Forensic Economics* 7(2) (spring/summer): 197-207.
- 15) Thornton, Robert J. 1994. Calculating the Present Value of Future Earnings in Pennsylvania: An Economist's viewpoint on the Treatment of Productivity Growth. *Pennsylvania Bar Association Quarterly* 65:37-41.
- 16) Thornton, Robert, James D. Rogers and Michael L. Brookshire, 1997. On the Interpretation of Age-Earnings Profiles. *Journal of Labor Research* 18(2) (spring): 351-366.
- Section Six: Discounting Future Losses
- 17) Tinari, Frank D. 1989. Estimating Monetary Loss Due to Personal Injury: Comment. *Journal of Forensic Economics* 2(2) (April): 75-78.
- 18) King, Elizabeth M. and James P. Smith. 1988. Chapter 9 of Computing Economic Loss in Cases of Wrongful Death. Santa Monica: Rand Corp.
- 19) Margulis, Marc S. 1992. Compensatory Damages and the Appropriate Discount Rate. *Journal of Forensic Economics* 6(1) (Winter): 33-41.
- Section Seven: Complications (fringe benefits, self consumption and taxes)
- 20) Duraney, Ronald A. 1991. Estimating Decedent's Consumption Expenditures in Wrongful Death Actions: Some Refinements. *Journal of Legal Economics* 1(2) (July): 94-98.
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- 23) Jennings, William, and Penelope Mercurio. 1991. Accounting for Taxes in the Determination of the Reduction for Personal Consumption. *Journal of Forensic Economics* 5(1) (winter): 85-86.
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- Section Eight: Partial Disability
- 27) Albrecht, Gary. 1991. Forecasting the Earnings of a Partially Disabled Individual. *Journal of Forensic Economics* 1(2) (July): 60-67.
- 28) Yelin, Edward H. and Patricia P. Katz. Labor Force Trends of Persons with and without Disabilities. *Monthly Labor Review* 117(10): 36-42.
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- 29) Hayge, Howard V. 1997. Developments in Women's Labor Force Participation. *Monthly Labor Review* 120(9) (September): 41-46.
- 30) Corcione, Frank P., and Robert J. Thornton. 1991. Female Work Experience: Voluntary Versus Involuntary Labor Force Activity. *Journal of Forensic Economics* 4(2) (spring/summer): 163-174.
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- 32) Educational Attainment: Total Money Earnings in 1997 of People 18 Years Old and Over by Age, Work Experience in 1997, and Gender. 1998. U.S. Bureau of the Census, Current Population Reports, P60-200. *Money Income in the United States: 1997 (With Separate Data on Valuation of Noncash Benefits)*, U.S. Government Printing Office, Washington, DC.
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- 35) Gill, Andrew M., and Jack Foley. 1996. Predicting Educational Attainment for a Minor Child: Some Further Evidence. *Journal of Forensic Economics* 9(2) (spring/summer): 101-112.
- Section Eleven: Household Services
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- 37) Paul, Harvey. 1991. The Role of the Husband/Father in Household Output. *Journal of Forensic Economics* 4(2) (spring/summer): 203-209.

- 38) Ireland, Thomas R. 1991. Value of the Homemaker Production by Implied Opportunity Cost: Using a Family Human Capital Methodology. *Journal of Legal Economics* 1(2) (July): 1-11.
- 39) Dulaney, Ronald A., John H. Fitzgerald, Matthew S. Swenson and John H. Wicks. 1992. Market Value of Household Production. *Journal of Forensic Economics* 5(2) (spring/summer): 115-126.
- Section Twelve: Medical Costs and Life Care Plans
- 40) Slesnick, Frank. 1990. Forecasting Medical Costs in Tort Cases: The Role of the Economist. *Journal of Forensic Economics* 4(1) (winter): 83-99.
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- 44) Ireland, Thomas R. 1993. The Meaning of "Hedonic Damages" in Tort Litigation. *Journal of Forensic Economics* 6(2) (spring/summer): 99-104.
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